IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A QoS controller, in an IP network having one or more routers, the QoS controller being different from the one or more routers of the IP network and comprising:

a storing unit configured to assign a first bit area and a second bit area within a field in an IP header of an IP packet, and store first bits for implementing bandwidth control at said routers into said first bit area and second bits that indicate a path for routing the IP packet to a destination router into said second bit area, wherein said first bits and said second bits do not interfere with each other within the field in the IP header; and

a reporting unit configured to report to said routers said first bits and said second bits stored by said storing unit.

Claim 2 (Original): The QoS controller as claimed in claim 1, wherein said storing unit further comprises a storing-control unit configured to change a ratio of said first bit area to said second bit area so as to store said first bits into said first bit area and said second bits into said second bit area.

Claim 3 (Original): The QoS controller as claimed in claim 1, further comprising a database unit,

wherein said database unit represents a first bit sequence as a router-control class for controlling said routers, and a second bit sequence as a routing class for routing at said routers; and

stores, in accordance with a type of the IP packet, a relationship between said router-control class and said routing class,

and wherein said reporting unit reports to said routers the relationship, stored at said

database unit, between said router-control class and said routing class.

Claim 4 (Currently Amended): The QoS controller as claimed in claim 3, further

comprising:

a traffic-monitoring unit configured to monitor traffic conditions at said routers; and

a corresponding-relationship updating unit configured to change the relationship,

stored at said database unit, between said router-control class and said routing class, based on

said monitored traffic conditions condition,

wherein said reporting unit reports to said routers the relationship changed by said

corresponding-relationship updating unit.

Claim 5 (Currently Amended): A method of controlling QoS in an IP network having

one or more routers, comprising the steps of:

assigning, by a QoS controller that is different from the one or more routers of the IP

network, within a field in an IP header of an IP packet, a first bit area and a second bit area,

wherein said first bit area and said second bit area do not interfere with each other within the

field in the IP header ;

storing first bits for implementing bandwidth control at said routers into said first bit

area, and storing second bits that indicate a path for routing the IP packet to a destination

router at said routers into said second bit area;

reporting to said routers said first bits and said second bits stored; and

causing, according to said reporting, said routers to start controlling and routing at

said routers based on said reported first bits and said reported second bits stored.

3

Claim 6 (Currently Amended): A router in an IP network, comprising:

a bit-setting information-obtaining unit configured to obtain first bits and second bits from a QoS controller; and

a control and relay unit configured to control and route at said router in accordance with said first bits for implementing bandwidth control at said router stored in a first area assigned within an IP-header field of an IP packet, and said second bits that indicate a path for routing the IP packet to a destination router at said router stored in a second area also assigned within said IP-header field of the IP packet, wherein said first bits and said second bits do not interfere with each other within said IP-header field of the IP packet.

Claim 7 (Original): The router as claimed in claim 6, which is arranged at a boundary of said IP network, further comprising a setting unit configured to set, based on a type of said IP packet, a router-control class to said first bits and a routing class to said second bits.

Claim 8 (Original): The router as claimed in claim 6, further comprising:

a traffic-measuring unit configured to measure volume of traffic flowing into said router; and

a traffic-condition reporting unit configured to report said measured volume as a traffic report to a QoS controller connected to said IP network.

Claim 9 (New): The QoS controller according to claim 3, wherein said database unit stores a first relationship between said router-control class and said routing class for controlling a first one of said routers and stores a second relationship between said router-control class and said routing class for controlling a second one of said routers.

Claim 10 (New): The method according to claim 5, further comprising:

storing, by the QoS controller, a first bit sequence as a router-control class for

controlling said routers, and a second bit sequence as a routing class for routing at said

routers in correspondence according to a type of the IP packet;

reporting, to said routers, the correspondence between said router-control class and

said routing class;

monitoring traffic conditions at said routers;

updating the correspondence between said router-control class and said routing class

based on said monitored traffic conditions; and

reporting, to said routers, the updated correspondence between said router-control

class and said routing class.

Claim 11 (New): The router according to claim 6, wherein second bits corresponding

to the first bits received by the bit-setting information-obtaining unit are changed, by the QoS

controller, in accordance with traffic conditions at the router.